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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/748,862	12/28/2000	Satoshi Sakamoto	1076.1060(JDH)	6062

21171 7590 10/31/2005

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EXAMINER

ALI, SYED J

ART UNIT

PAPER NUMBER

2195

DATE MAILED: 10/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/748,862	Applicant(s) SAKAMOTO ET AL.	
	Examiner Syed J. Ali	Art Unit 2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 September 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-24 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 16-24 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to the amendment filed September 1, 2005. Claims 16-24 are presented for examination.
2. The text of those sections of Title 35, U.S. code not included in this office action can be found in a prior office action.

Claim Rejections - 35 USC § 102

3. **Claims 16-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nageswaran (USPN 5,991,792) in view of Ranganathan (USPN 6,487,578).**
4. As per claims 16-18, Nageswaran teaches the invention as claimed, including a method for controlling a plurality of threads that perform parallel processing, the method comprising:
 - monitoring a number of running threads performing parallel processing and a number of standby threads that are in a standby state for a predetermined time period (col. 3 lines 21-33);
 - setting a necessary number of standby threads in accordance with the number of running threads during the predetermined time period (col. 3 lines 46-54);
 - comparing the number of the standby threads with the necessary number of the standby threads at a predetermined time interval (col. 3 line 55 - col. 4 line 4); and
 - terminating a number of standby threads exceeding the necessary number when the number of standby threads is greater than the necessary number (col. 3 lines 57-62; col. 4 lines 6-7, 40-49).

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5. Ranganathan teaches the invention as claimed, wherein the necessary number may be derived from statistical information pertaining to system workload, including but not limited to: a maximum number of running threads; an average number of running threads; and a product obtained by multiplying the number of running threads by a predetermined coefficient (col. 2 lines 1-23; col. 3 lines 30-42; col. 4 lines 22-39).

6. It would have been obvious to one of ordinary skill in the art to combine Nageswaran and Ranganathan since the iterative method of reducing the number of threads disclosed by Nageswaran may be inefficient by way of not having a meaningful ideal number of threads in the thread pool. Thus, the number of idle threads is incrementally decreased until a suitably low number of threads are reached. However, while Nageswaran is limited in this respect, it is shown that other embodiments are possible, in that the number of threads is a “configurable parameter.” (col. 3 lines 15-21). Ranganathan is able to provide detailed statistics for resource utilization, including monitoring workload, that can be utilized in many ways to dynamically control resource consumption, e.g. the number of threads in a thread pool.

7. As per claims 19-21, Nageswaran teaches the invention as claimed, including a controller for controlling a plurality of threads that perform parallel processing, the controller comprising:

a thread management table storing thread information of the plurality of threads (col. 2 lines 40-42), wherein the thread information includes a number of running threads performing parallel processing (col. 3 lines 24-26) and a number of standby threads that are in a standby state (col. 3 lines 23-24);

a thread management circuit requesting thread generation based on the number of standby threads stored in the thread management table, and requesting a standby thread to run (col. 3 lines 15-21);

a comparison circuit setting a necessary number of standby threads in accordance with the number of running threads included in the thread information (col. 3 lines 46-54), and comparing the number of standby threads with the necessary number (col. 3 lines 57-62); and

a termination circuit terminating a number of standby threads exceeding the necessary number when the number of standby threads is greater than the necessary number (col. 3 lines 57-62; col. 4 lines 6-7, 40-49).

8. Ranganathan teaches the invention as claimed, wherein the necessary number may be derived from statistical information pertaining to system workload, including but not limited to: a maximum number of running threads; an average number of running threads; and a product obtained by multiplying the number of running threads by a predetermined coefficient (col. 2 lines 1-23; col. 3 lines 30-42; col. 4 lines 22-39).

9. As per claims 22-24, Nageswaran teaches the invention as claimed, including a computer readable storage medium storing a program for performing the method of claims 16-18, respectively (col. 4 line 66 - col. 5 line 10).

Response to Arguments

10. **Applicant's arguments with respect to claims 16-24 have been considered but are moot in view of the new grounds of rejection.**

Conclusion

11. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

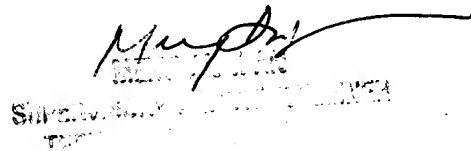
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Syed J. Ali whose telephone number is (571) 272-3769. The examiner can normally be reached on Mon-Fri 8-5:30, 2nd Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai T. An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Syed Ali
October 24, 2005

A handwritten signature in black ink is written over a rectangular official stamp. The stamp contains the text "SUPERVISOR" and "UNIT 2195" in a bold, sans-serif font. The signature is a cursive-style name, possibly "Syed Ali", with a long horizontal flourish extending to the right.